The Islamic University of Gaza
Faculty of Engineering
Department of Electrical Engineering
Electric Circuits I (EELE 2310)
Pre-requisite Calculus B (MathB1401)

Instructor : Assad Abu-Jasser, *PhD Electric Power Engineering*
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Text Book
Electric Circuits 9/ed, James W. Nilsson & Susan A. Riedel.

Topics
Circuit variables, basic circuit elements, basic circuit law, Ohm's law, Kirchhoff''s laws, resistive circuits, network theorems, node-voltage, mesh-current, Thevenin and Norton equivalents. Inductance, capacitance and mutual inductance. First order circuits (RL and RC circuits). Second order circuits (series and parallel RLC circuits).

References
1. Basic Engineering Circuit Analysis 3/ed., J. David Irwin.
2. Engineering Circuit Analysis 3/ed. William H. Hayt, JR. & Jack E. Kemmerly.

Objectives
- To recognize the circuit variable and basic circuit elements
- To analyze simple circuits applying Ohm's and Kirchhoff's laws
- To be capable of applying network theorems
- To get to know the behavior of inductors and capacitors in electric circuits
- To analyze first-order circuits (first- and second-order response)
- To analyze second-order circuits (first- and second-order response)

Intended Learning Outcomes
- To mention the circuit variable and basic circuit elements
- To apply Ohm's and Kirchhoff's laws in simple resistive circuit
- To solve complicated circuits applying different network theorems
- To obtain currents and voltages of circuits containing inductors and capacitors
- To get expressions for currents and voltages of first-order circuits
- To get expression for currents and voltages of second-order circuits

Grading
Attendance	05 Pts
Homework and quizzes	15 Pts.
Mid-Term Exam	30 Pts.
Final Exam	50 Pts.

Homework
Homework assignments will be given on a regular basis. Each assignment is to be returned within one week. No excuses will be accepted for any delay.

Office Hours
Open-door policy, by appointment or as posted.